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RE: **Our File Number:** S004/7001US0
 Your File Number: U.S. Serial No. 10/771,572 (Conf. No. 3718)

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Comments or Instructions:

For your review. I look forward to your response.

Re: Applicant: Daniel Ebi
Serial No.: 10/771,572
Filed: February 4, 2004
For: EXTENSION PIECE FOR A DENTAL IMPLANT, TRANSFER AID
FOR TRANSFERRING THE POSITION OF AN IMPLANT AND OF
AN EXTENSION PIECE, AND METHOD FOR PRODUCING A
BASIS FOR A RETENTION ELEMENT
Examiner: Ralph Lewis
Art Unit: 3732
Conf. No.: 3718

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Serial No. 10/771,572

Proposed Amendment

1. (Currently Amended) An extension piece for a dental implant comprising:
a head part which serves as a basis for a retention element,
a threaded stem with which the extension piece can be screwed into the dental implant,

the extension piece head part being of substantially cylindrical design and having at its upper end at least one reference form, which defines the circumferential position of the extension piece and by which reference form the circumferential position of the extension piece can be transferred to a working model,

the extension piece head part having, between the reference form and the threaded stem, a plurality of non-cylindrical outer contour with gripping surfaces by which the extension piece can be gripped and screwed into the dental implant with a tool engaging on the gripping surfaces.

~~the head part being of substantially cylindrical design and having at its upper end a reference surface as the reference form, the reference surface being formed by a cut surface of comprising a semicylindrical outer circumferential surface of a semicircular cylinder extending parallel to the screw axis of the extension piece and a substantially diagonally cut reference surface, and wherein a bevel is provided in the area of the transition from between the reference surface to a and the semicylindrical outer circumferential surface of the semicircular cylinder.~~

2. (Previously presented) The extension piece as claimed in claim 1, wherein the extension piece has a mating shoulder via which the extension piece can be supported on an implant shoulder of the dental implant, such that the position of the extension piece in the axial direction can be transferred.

3. (Previously presented) The extension piece as claimed in claim 1, wherein the extension piece has a first contour onto which a transfer aid with a complementarily shaped second contour can be clamped and/or snapped, and the first contour is arranged between the gripping surfaces and the reference form.

4-6. (Canceled)

7. (Previously presented) The extension piece as claimed in claim 1, wherein the extension piece is made of a metallic, non-oxidizing, high-melting-point alloy.

8. (Previously presented) A transfer aid for transferring the position of dental implant and of the extension piece, as claimed in claim 3, to a working model, with the transfer aid comprising:

- a transfer surface which defines the circumferential position of the transfer aid,
- a base plate in which the transfer surface is arranged, the base plate having a non-cylindrical outer contour which can be anchored securely against rotation in an impression,

- the transfer surface being shaped to complement the reference form of the extension piece and being part of a semicylindrical opening in the base plate,

- a circular lip which is arranged on the base plate and which has a second contour by which the transfer aid can be snapped and/or clamped onto the first contour of the extension piece, and

- wherein a recess is arranged in the transition area between the transfer surface and a semicylindrical inner surface of said semicylindrical opening in the base plate.

9-11. (Canceled)

12. (Previously presented) The transfer aid as claimed in claim 8, wherein the transfer aid is one piece.

13. (Previously presented) The transfer aid as claimed in claim 8, wherein the opening extends right through the base plate.

14. (Previously presented) The transfer aid as claimed in claim 8, wherein the base plate is provided with holes which are arranged radially outside the circular lip.
15. (Previously presented) A method comprising:
providing an extension piece as claimed in claim 1, and which can be machined,
and using the extension piece as a transfer part for transferring its own axial and circumferential position to a working model and/or as a basis for a retention element.
16. (Canceled)
17. (Previously Presented) A method for taking an impression of the radial and axial position of at least one dental implant implanted in a jaw bone with the extension piece as claimed in claim 1 fitted in it to a working model and/or for producing a basis for a retention element, said method comprising the following steps:
- a) screwing the at least one extension piece with the reference form as a basis for a retention element into the at least one dental implant with a first torque,
 - b) producing an impression of the situation of the at least one dental implant and of the extension piece in the patient's mouth by applying an impression compound, the extension piece leaving an impression in the impression compound and remaining connected to the implant after removal of the impression compound from the mouth,
 - c) removing the extension piece from the implant after removal of the impression compound from the mouth,
 - d) repositioning the extension piece in the correct position in the impression,
 - e) before or after step d), screwing a manipulation implant with a second torque onto the at least one extension piece,
 - f) producing a working model by casting the manipulation implant or implants into a modeling compound, and wherein a position marking is arranged on the extension piece before the machining, and wherein the extension piece, for machining, is removed from the working model and is fitted onto a holder and machined on the latter after the impression has been taken.
18. (Previously presented) The method as claimed in claim 17, wherein a transfer aid is applied to the extension piece before the removal of the impression of the

extension piece, and wherein the transfer aid remains in the impression compound when the impression is produced.

19. (Previously presented) The method as claimed in claim 17, wherein the first torque is greater than the second torque, and wherein the second torque approximately corresponds to a manual screwing of the extension piece onto the manipulation implant.

20. (Original) The method as claimed in claim 17, wherein, in step a), the extension piece is turned twice in succession into the implant.

21. (Previously presented) The method as claimed in claim 19, wherein the first torque is approximately 35 Ncm.

22. (Canceled)

23. (Previously presented) The method as claimed in claim 17, wherein during machining of the extension piece, a plateau surface is formed, to which a retention element for mounting a detachable tooth replacement is applied.

24. (Previously presented) The method as claimed in claim 23, wherein the extension piece is screwed into the implant with the first torque.

25. (Original) The method as claimed in claim 23, wherein, upon definitive screwing of the machined extension piece into the implant, a spreading cone is inserted between an inner cone of the implant and the extension piece.

26. (Previously presented) The extension piece as claimed in claim 7, wherein the alloy is a composition of 60% Au, 19% Pt, 20% Pd, 1% Ir, the melting range being between 1400° and 1490° Celsius.

27. (Previously presented) The method as claimed in claim 18, wherein the transfer aid is applied to the extension piece by clamping and/or screwing.

28. (Previously presented) The transfer aid as claimed in claim 12, made of a plastic material.

29. (Previously presented) A method for taking an impression of the radial and axial position of at least one dental implant implanted in a jaw bone with an extension piece as claimed in claim 1 fitted in it to a working model and/or for producing a basis for a retention element, said method comprising the following steps:

a) screwing the at least one extension piece with a reference surface as a basis for a retention element into the at least one dental implant with a first torque,

b) producing an impression of the situation of the at least one dental implant and of the extension piece in the patient's mouth by applying an impression compound, the extension piece leaving an impression in the impression compound and remaining connected to the implant after removal of the impression compound from the mouth,

c) removing the extension piece from the implant after removal of the impression compound from the mouth,

d) repositioning the extension piece in the correct position in the impression,

e) before or after step d), screwing a manipulation implant with a second torque onto the at least one extension piece, wherein the first torque is greater than the second torque, and wherein the second torque approximately corresponds to a manual screwing of the extension piece onto the manipulation implant, and

f) producing a working model by casting the manipulation implant or implants into a modeling compound, and wherein the extension piece is machined after the impression has been taken.

30. (Previously presented) The method as claimed in claim 29, wherein, in step a), the extension piece is turned twice in succession into the implant.

31. (Canceled)

32. (Previously presented) The method as claimed in claim 29, wherein a position marking is arranged on the extension piece before the machining, and wherein the extension piece, for machining, is removed from the working model and in particular fitted onto a holder and machined on the latter.

33. (Previously presented) The method as claimed in claim 32, wherein during machining of the extension piece, a plateau surface is formed, to which a retention element for mounting a detachable tooth replacement is applied.
34. (Previously presented) The method as claimed in claim 29, wherein the machined extension piece is screwed into the implant with the first torque.
35. (Previously presented) The method as claimed in claim 32, wherein, upon definitive screwing of the machined extension piece into the implant, a spreading cone is inserted between an inner cone of the implant and the extension piece.

Distinguishing Features over Porter US 6,758,672

The primary reference, Porter US 6,758,672, fails to teach each of the following claim elements:

- the head part having “at its upper end at least one reference form”;
- a substantially cylindrical head part having “between the reference form and the threaded stem, a plurality of non-cylindrical gripping surfaces”;
- the reference form “comprising a semicylindrical outer circumferential surface of a semi-cylinder extending parallel to the screw axis of the extension piece and a substantially diagonally cut reference surface”; and
- wherein a bevel is provided “between” the reference surface and the semi-cylindrical outer circumferential surface.